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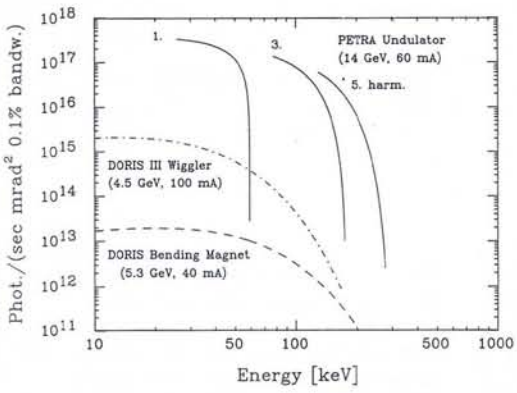
REPLACEMENT

A few copies of *EN* (**22**, December) 1991 contained duplicates of pp. 209-212 instead of pp. 205-208. We apologize for the error. Please contact the Secretariat for replacements.

PETRA By-Pass

A Fourth Generation Synchrotron Source



Brightness of a 5 m long undulator which could be installed at DESY, Hamburg, in a by-pass of HERA's PETRA booster storage ring. The solid lines represent the brightness of the first, third and fifth harmonics of the undulator as a function of the size of the magnetic gap. Comparisons are made with the performance of a wiggler and a bending magnet presently installed at HASYLAB's DORIS storage ring.

Storage rings operated above 10 GeV at ep-colliders offer attractive possibilities for fourth-generation synchrotron radiation sources. In particular, the storage ring PETRA has recently been reconstructed as an electron and proton booster for HERA, the new, superconducting hadron-electron storage ring at DESY, Hamburg (Ed.: HERA obtained its first beam last October). The expected lifetimes in HERA are 3 hours for electrons, and 12 hours for protons. PETRA could be used between injections as a storage ring for synchrotron radiation without affecting its performance as a booster for HERA.

A by-pass for synchrotron radiation experiments at PETRA has been proposed [Brefeld W. and Gürtler P., *Proc. Particle Accelerator Conf.*, Stanford, USA (1991)] which would provide space for the installation of two 5 m long magnetic undulators. At 13 GeV, the existing electron booster optics yields an emittance of 79 nmrad: the photon beam divergence would be 0.053 mrad by 0.012 mrad and the beam size some 12 × 2.7 mm² at a point 100 m from the undulator. The figure shows the spectral brightness calculated for an undulator using hybrid technology (permanent magnets and electromagnets) with a period of 3.35 cm and a gap of 11 mm, operated at an electron energy of 14 GeV. By opening the gap, the energy of the photons from the fundamental can be tuned between 20 and 40 keV with almost constant intensity. Including third and fifth harmonics, the energy range from 20 to 200 keV is covered by one device. The total radiation power emitted by this undulator is 13.7 kW, but only 130 W are emitted in the energy range up to 5 keV. Filters can therefore be used and handling of the heat load is straight-forward.

J.R. Schneider, F. Bell

EPS/JPS Collaboration

Meeting in Budapest with Maurice Jacob, President of EPS, on the occasion of the 100th anniversary of the Eötvös Physical Society, Professor Mishiji Konuma, President of **The Japan Physical Society** agreed to work to establish a direct and permanent contact between the two Societies. Link persons responsible for exchanging information and corodinating activities have been nominated. They are the JPS Secretary for International Affairs (currently Dr. Ken Kikuchi, of KEK Tsukuba) and the Vice-Secretary of the EPS Executive Committee (currently, Professor A. Taroni, Facolta di Ingegneria, via Valotti, 9, I-25100 Brescia), who can be contacted by members concerning questions for which the advice of the JPS is important.